DECISION DOCUMENT

Bloody Brook
Voluntary Cleanup Program
Salina, Onondaga County
Site No. V00501
March 2014

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - DECISION DOCUMENT

Bloody Brook
Voluntary Cleanup Program
Salina, Onondaga County
Site No. V00501
March 2014

Statement of Purpose and Basis

This document presents the remedy for the Bloody Brook site, a voluntary cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and applicable guidance.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Bloody Brook site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation and off-site disposal of contaminated soil and sediment, including:

- all sediment from the West Branch of Bloody Brook and Bloody Brook, from below the confluence of the West and Middle Branches of Bloody Brook, between the New York State Thruway and the Onondaga Lake Parkway;
- top 2 feet of side bank soil from the West Branch of Bloody Brook and Bloody Brook, from below the confluence of the West and Middle Branches of Bloody Brook, between the New York State Thruway and Old Liverpool Road, with the exception of the existing gabion-lined section (channel side banks will be reconstructed with a minimum of two feet of clean cover material);
- side bank soil from Bloody Brook between Old Liverpool Road and the Onondaga Lake Parkway that exhibit cadmium concentrations greater than 4 ppm (up to two feet below grade);
- the wooded/wetland area (soils in the top two feet that exhibit cadmium concentrations greater than 4 ppm, and soils from two to six feet below grade that exhibit cadmium concentrations greater than 100 ppm);
- residential properties (soils in the top two feet that exhibit cadmium concentrations greater than 2.5 ppm, and soils from two to four feet below grade that exhibit cadmium concentrations greater than 10 ppm);
- apartment complex area (soils in the top two feet that exhibit cadmium concentrations greater than 4.3 ppm and soils from two to four feet below grade that exhibit cadmium concentrations greater than 10 ppm);
- drainage district easement maintained by Onondaga County (soils in the top two feet that exhibit cadmium concentrations greater than 10 ppm); and
- former drive-in theater area (soils in the top two feet that exhibit cadmium concentrations greater than 9.3 ppm where surface disposal of brook dredge spoils occurred).

Approximately 20,100 cubic yards of soil and 1,700 cubic yards of sediment are estimated to be removed from the site.

Clean fill meeting the requirements of DER-10, Appendix 5 will be brought in to replace the excavated soil and sediment or complete the backfilling of the excavation and establish the designed grades at the site.

The wooded and wetland areas and stream banks will be restored as per an approved design.

3. A site cover will be required to allow for current uses of the site and surrounding properties. A site cover will be allowed for those properties currently zoned and used as residential, commercial and industrial. The cover will consist of soil in areas where the upper two to six feet of exposed soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in DER-10, Appendix 5 for current uses of the site and surrounding properties. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in DER-10, Appendix 5.

4. A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: requires the remedial party to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3). Institutional controls also include voluntary agreements between Lockheed Martin and respective property owners for site access and any other pertinent provisions to enable the installation and maintenance of cover systems, management of residual contamination, excavation, inspections, sampling, and/or any other requisite activities.

Engineering Controls: The soil cover discussed in Paragraph 3.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- a provision for further investigation to refine the extent of contamination in the following areas where access was previously hindered: any residential property where access is currently denied; and future excavations at depths greater than that remediated under this proposed remedy;
- provisions for the management and inspection of the identified engineering controls, including within drainage district right-of-way areas [While usage of these areas is generally controlled by their right-of-way status, potential exposures related to required district maintenance or repairs to brook banks, culverts, *etc*. will be addressed by Lockheed Martin.];
- maintaining site access controls and Department notification;
- tracking of property ownership changes to allow for the continued communication with owners;
- annual notification by Lockheed Martin to property owners of Lockheed Martin's offer to implement the remedy for property owners who chose to decline remedy implementation and/or sampling on their property;
- an annual reminder from Lockheed Martin to property owners with post remedy residual soil contamination of the presence of such residual contamination, and of Lockheed Martin's commitment to handle [excavate, manage and dispose] residual contaminated soils, as necessary and in accordance with the intended use of the property;
- provision for Lockheed Martin to request that the Village of Liverpool Code Enforcement Office and the Town of Salina Department of Planning and Development timely inform Lockheed Martin of any building permits they grant for properties within the site boundaries where residual material remains post remedy;
- provision for Lockheed Martin to request that the Town of Salina and Onondaga County timely inform Lockheed Martin of any Town or County plans to conduct intrusive maintenance work within the site boundaries (*e.g*., soil disturbance work); and

- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of wetlands, surface water and sediment to assess the performance and effectiveness of the remedy; and
- a schedule of monitoring and frequency of submittals to the Department.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

3/6/14
Date

William Daigle, Director
Remedial Bureau D

DECISION DOCUMENT

Bloody Brook
SALINA, Onondaga County
Site No. V00501
March 2014

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The release of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The release of contaminants at this site, as more fully described in this document, has contaminated various environmental media.

The Voluntary Cleanup Program (VCP) is a voluntary program. The goal of the VCP is to enhance private sector cleanup of brownfields by enabling parties to remediate sites using private rather than public funds and to reduce the development pressures on "greenfields." This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comments on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

Liverpool Public Library
310 Tulip Street
Liverpool, NY 13088
Phone: 315-457-0310

NYS Dept. of Environmental Conservation
Attn: Richard Mustico, P.E.
625 Broadway
Albany, NY 12233
Phone: 518-402-9676

Atlantic States Legal Foundation
Attn: Samual Sage
658 West Onondaga Street
Syracuse, NY 13204
Phone: 315-475-1170

NYS Dept. of Environmental Conservation
615 Erie Blvd. West
Syracuse, NY 13204
Phone: 315-426-7400

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The Bloody Brook site is located in the Town of Salina and the Village of Liverpool in Onondaga County, New York.

Site Features: The Bloody Brook Site is an approximately 5,000-foot long stretch of the brook from the New York State Thruway to the Onondaga Lake Parkway. The main site features include the west and middle branches of the brook and brook sediments; the banks of the brook; floodplain soils; a wetland area; a wooded area; and soils associated with the former channel.

Current Zoning and Land Use: The land uses surrounding Bloody Brook include industrial, commercial and residential, consistent with applicable, current zoning. The surrounding area also contains railroad tracks, numerous roads and right-of-ways. The brook itself is not used commercially. Bloody Brook is a Class B stream (best use is contact recreation) from the mouth of the brook to its confluence with the West Branch of Bloody Brook, approximately 0.4 miles upstream from the mouth. Upstream of this confluence, the West and Middle Branches of Bloody Brook are Class C streams (best use is fishing). The site is within the Bloody Brook Drainage District. The drainage district was formed to allow Onondaga County access to the brook to complete drainage improvements and maintain the drainage capacity of the brook.

Past Use of the Site: The site contamination is believed to have resulted from discharges to the West Branch of Bloody Brook from Electronics Park which was owned by General Electric from 1949 to 1993 when it was transferred to Martin Marietta (predecessor to Lockheed Martin). General Electric used cadmium in the manufacturing of television picture tubes. The course of the brook channel was modified five times between 1944 and 1978. The modifications occurred as part of Thruway construction; construction of the residential areas; construction of the former Lakeshore Drive-In Theater; and installation of new culverts for hydraulic improvements downstream of the former Lakeshore Drive-In Theater. Prior to 1938, the area was generally used for agriculture with some wooded areas and some residential homes. As per the Department’s February 1997 Final Decision and Response to Comments for the Electronics Park Facility, the final remedy implemented for the Electronics Park Facility included the continuation of the site-wide groundwater pump and treat system, to preclude the off-site migration of groundwater; storm sewer maintenance, to eliminate infiltration of groundwater into the storm sewers; and the removal of cadmium-impacted and PCB-impacted sediments within a 200-foot long culvert beneath the Thruway and from a 750-foot section in the West Branch of

Bloody Brook south of the Thruway.

Site Geology and Hydrogeology: The site geology consists of a sand and silt mixture, underlain by dense clay. The clay elevation is relatively consistent across the site, while the sand and silt mixture fluctuates with the surface elevation. Within the location of the former brook channel, an organic peat layer exists with a thickness from approximately one inch to three feet.

The brook has been channelized by the Bloody Brook Drainage District. The brook generally flows south, and is a tributary to Onondaga Lake.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. Land uses vary over the length of the site and encompass residential, commercial and industrial.

SECTION 5: ENFORCEMENT STATUS

The Department and Lockheed Martin entered into a Voluntary Cleanup Agreement for the Bloody Brook site on July 19, 2002 (Index No. D7-0001-01-09). The agreement governs the submission and implementation of work plans for the site investigation, remediation and operation, maintenance and monitoring.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells may be installed to assess groundwater and soil borings or test pits may be installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor may also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives.

For the Bloody Brook Site, several remedial investigations were completed. The analytical data

collected from the site are summarized in the investigation reports. The investigation reports are available for review in the site document repository, and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- surface water
- soil
- sediment

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the investigation reports contain full discussions of the data. The contaminant(s) of concern identified at this site is/are:

Cadmium

The contaminant(s) of concern exceed the applicable SCGs for:

- soil
- sediment

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

Culvert IRM

In 2008, Lockheed Martin conducted a sediment removal from four culvert crossings in the West Branch of Bloody Brook. This IRM was conducted at the request of Onondaga County in order to increase the hydraulic capacity of the brook. Sediment removal totaled approximately 68 cubic yards, and the material was properly disposed of at a permitted solid waste facility.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The Remedial Action Work Plan presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination:

Based upon the investigations conducted to date, the primary contaminant of concern at the site is cadmium.

Soil - Cadmium is found in both shallow and deeper soil (up to approximately 15 feet below grade), and at concentrations from below laboratory detection limits to 5,350 parts per million (ppm). Concentrations of cadmium found on-site exceed the New York State Soil Cleanup Objectives (SCOs) for unrestricted use (2.5 ppm), residential use (2.5 ppm), restricted residential use (4.3 ppm), commercial use (9.3 ppm), industrial use (60 ppm) and for the protection of ecological resources (4 ppm). Sample results indicate that cadmium concentrations decrease away from the current and former channels of the brook. In addition, cadmium concentrations are, in general, higher in the upstream portion of the site (*i.e.*, towards the Thruway), and decrease towards the downstream end of the site (*i.e.*, towards Onondaga Lake Parkway).

Sediment - Sediment in the West Branch of Bloody Brook and Bloody Brook, below its confluence with the West Branch of Bloody Brook, have been impacted by cadmium in an area from below the Thruway to the Onondaga Lake Parkway. Cadmium is found in the brook sediments at concentrations from below laboratory detection limits to 174 ppm. Cadmium concentrations in sediment exceed New York State sediment values for both the lowest effect level sediment criterion (0.6 ppm) and severe effect level sediment criterion (9.0 ppm). Sample results indicate that cadmium concentrations are, in general, higher in the northern portion of the site and decrease towards the south end of the site. Sediment in the Middle Branch was analyzed early in the investigation, and based on the sampling results, it was determined that further investigation and sediment remediation of the Middle Branch was not warranted.

Surface Water - Surface water samples collected from the West and Middle Branches of Bloody Brook did not exhibit cadmium concentrations in excess of applicable water quality standards.

A fish and wildlife impact analysis was performed for the site. The habitat within most areas of the site is generally limited due to the surrounding land use and maintenance activities in the

Bloody Brook Drainage District easement (*e.g.*, mowing). However, in addition to the brook, the site contains a wooded area and three small federal wetland areas. The wetland areas range in size from 334 square feet to 1.2 acres. As discussed above, cadmium concentrations in some areas of the brook exceed the New York State severe effect level sediment criterion. Also as discussed above, site soil numbers exceed the New York State SCO for the protection of ecological resources.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

Contact with site-related contamination along the creek banks and in nearby soil is minimized because the areas are either well vegetated with grass and brush, or covered by barriers to reduce erosion (*e.g.*, gabions, flagstone). People may come into contact with site-related contamination if they disturb sediment in the brook or if they dig below the surface in surrounding areas.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Sediment

RAOs for Public Health Protection

- Prevent direct contact with contaminated sediments.

RAOs for Environmental Protection

- Prevent impacts to biota from ingestion/direct contact with sediments causing toxicity or impacts from bioaccumulation through the marine or aquatic food chain.
- Restore sediments to pre-release/background conditions to the extent feasible.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the alternative analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation.

The selected remedy is referred to as the excavation and off-site disposal remedy.

The elements of the selected remedy, as shown in Figure 2A, 2B, 2C and 2D are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation and off-site disposal of contaminated soil and sediment, including:

- all sediment from the West Branch of Bloody Brook and Bloody Brook, from below the confluence of the West and Middle Branches of Bloody Brook, between the New York State Thruway and the Onondaga Lake Parkway;
- top 2 feet of side bank soil from the West Branch of Bloody Brook and Bloody Brook, from below the confluence of the West and Middle Branches of Bloody Brook, between the New York State Thruway and Old Liverpool Road, with the exception of the existing gabion-lined section (channel side banks will be reconstructed with a minimum of two feet of clean cover material);
- side bank soil from Bloody Brook between Old Liverpool Road and the Onondaga Lake Parkway that exhibit cadmium concentrations greater than 4 ppm (up to two feet below grade);
- the wooded/wetland area (soils in the top two feet that exhibit cadmium concentrations greater than 4 ppm, and soils from two to six feet below grade that exhibit cadmium concentrations greater than 100 ppm);

- residential properties (soils in the top two feet that exhibit cadmium concentrations greater than 2.5 ppm, and soils from two to four feet below grade that exhibit cadmium concentrations greater than 10 ppm);
- apartment complex area (soils in the top two feet that exhibit cadmium concentrations greater than 4.3 ppm and soils from two to four feet below grade that exhibit cadmium concentrations greater than 10 ppm);
- drainage district easement maintained by Onondaga County (soils in the top two feet that exhibit cadmium concentrations greater than 10 ppm); and
- former drive-in theater area (soils in the top two feet that exhibit cadmium concentrations greater than 9.3 ppm where surface disposal of brook dredge spoils occurred).

Approximately 20,100 cubic yards of soil and 1,700 cubic yards of sediment are estimated to be removed from the site.

Clean fill meeting the requirements of DER-10, Appendix 5 will be brought in to replace the excavated soil and sediment or complete the backfilling of the excavation and establish the designed grades at the site.

The wooded and wetland areas and stream banks will be restored as per an approved design.

3. A site cover will be required to allow for current uses of the site and surrounding properties. A site cover will be allowed for those properties currently zoned and used as residential, commercial and industrial. The cover will consist of soil in areas where the upper two to six feet of exposed soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in DER-10, Appendix 5 for current uses of the site and surrounding properties. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in DER-10, Appendix 5.

4. A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: requires the remedial party to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3). Institutional controls also include voluntary agreements between Lockheed Martin and respective property owners for site access and any other pertinent provisions to enable the installation and maintenance of cover systems, management of residual contamination, excavation, inspections, sampling, and/or any other requisite activities.

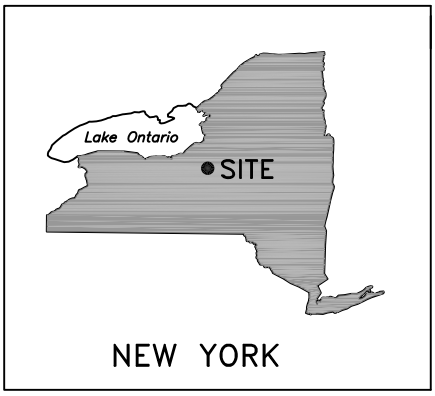
Engineering Controls: The soil cover discussed in Paragraph 3.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- a provision for further investigation to refine the extent of contamination in the following areas where access was previously hindered: any residential property where access is currently denied; and future excavations at depths greater than that remediated under this proposed remedy;
- provisions for the management and inspection of the identified engineering controls, including within drainage district right-of-way areas [While usage of these areas is generally controlled by their right-of-way status, potential exposures related to required district maintenance or repairs to brook banks, culverts, *etc*. will be addressed by Lockheed Martin.];
- maintaining site access controls and Department notification;
- tracking of property ownership changes to allow for the continued communication with owners;
- annual notification by Lockheed Martin to property owners of Lockheed Martin's offer to implement the remedy for property owners who chose to decline remedy implementation and/or sampling on their property;
- an annual reminder from Lockheed Martin to property owners with post remedy residual soil contamination of the presence of such residual contamination, and of Lockheed Martin's commitment to handle [excavate, manage and dispose] residual contaminated soils, as necessary and in accordance with the intended use of the property;
- provision for Lockheed Martin to request that the Village of Liverpool Code Enforcement Office and the Town of Salina Department of Planning and Development timely inform Lockheed Martin of any building permits they grant for properties within the site boundaries where residual material remains post remedy;
- provision for Lockheed Martin to request that the Town of Salina and Onondaga County timely inform Lockheed Martin of any Town or County plans to conduct intrusive maintenance work within the site boundaries (*e.g*., soil disturbance work); and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of wetlands, surface water and sediment to assess the performance and effectiveness of the remedy; and
- a schedule of monitoring and frequency of submittals to the Department.



0' 2000' 4000'

APPROXIMATE SCALE

REFERENCE:

1. NYSDOT 7.5 MIN TOPOGRAPHIC MAP OF SYRACUSE WEST, QUADRANGLE 1990, SCALE: 1" = 2000'.

AECOM

LOCKHEED MARTIN CORPORATION

SITE LOCATION MAP

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

FILE NAME:	DRN	PROJECT NO.	DATE	FIGURE NO.
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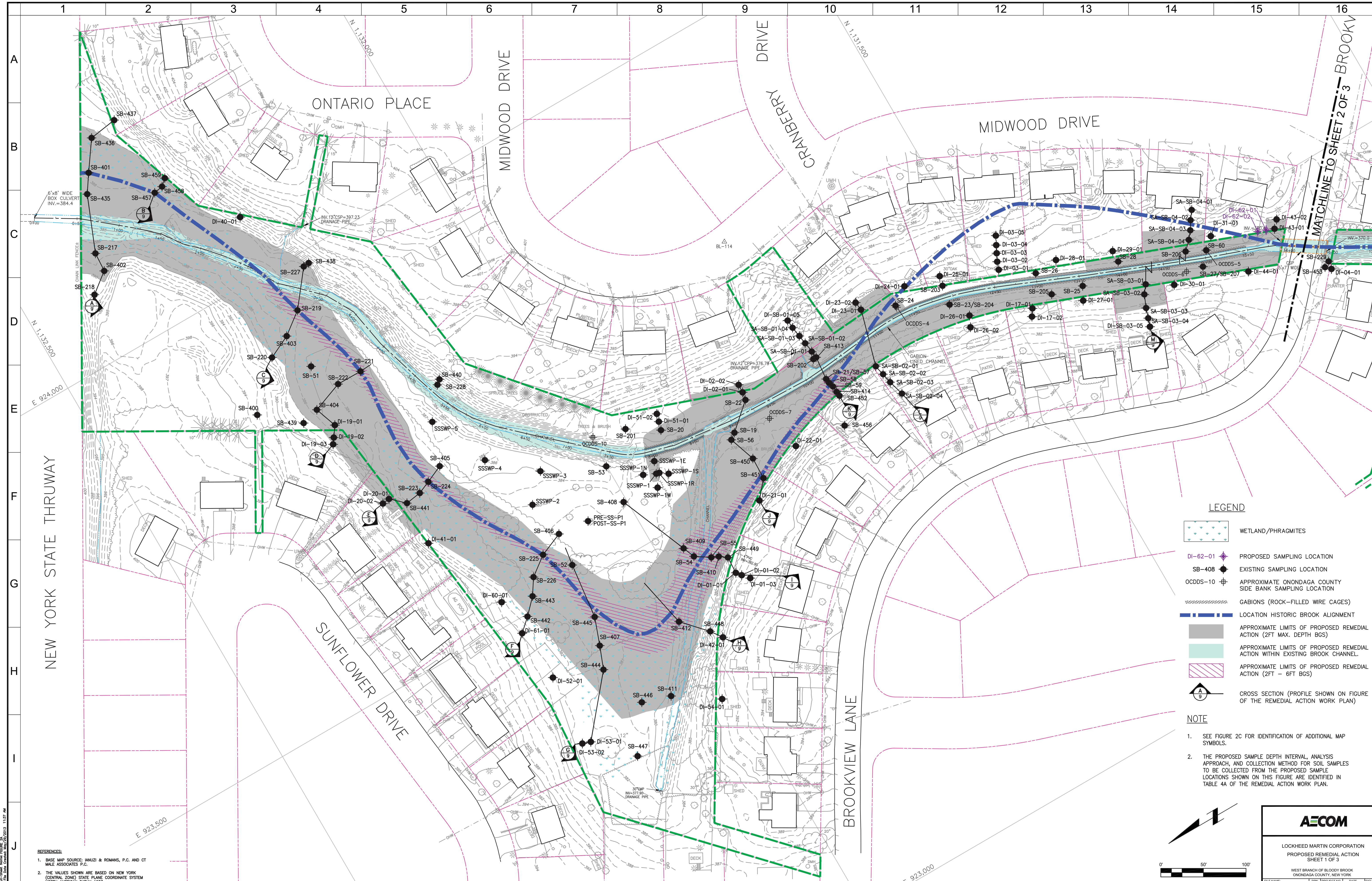

LEGEND

- WETLAND/PHRAGMITES
- DI-62-01 PROPOSED SAMPLING LOCATION
- SB-408 EXISTING SAMPLING LOCATION
- OCDDS-10 APPROXIMATE ONONDAGA COUNTY SIDE BANK SAMPLING LOCATION
- GABIONS (ROCK-FILLED WIRE CAGES)
- LOCATION HISTORIC BROOK ALIGNMENT
- APPROXIMATE LIMITS OF PROPOSED REMEDIAL ACTION (2FT MAX. DEPTH BGS)
- APPROXIMATE LIMITS OF PROPOSED REMEDIAL ACTION WITHIN EXISTING BROOK CHANNEL.
- APPROXIMATE LIMITS OF PROPOSED REMEDIAL ACTION (2FT – 6FT BGS)
- CROSS SECTION (PROFILE SHOWN ON FIGURE 9 OF THE REMEDIAL ACTION WORK PLAN)

NOTE

1. SEE FIGURE 2C FOR IDENTIFICATION OF ADDITIONAL MAP SYMBOLS.
2. THE PROPOSED SAMPLE DEPTH INTERVAL, ANALYSIS APPROACH, AND COLLECTION METHOD FOR SOIL SAMPLES TO BE COLLECTED FROM THE PROPOSED SAMPLE LOCATIONS SHOWN ON THIS FIGURE ARE IDENTIFIED IN TABLE 4A OF THE REMEDIAL ACTION WORK PLAN.

REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.
2. THE VALUES SHOWN ARE BASED ON NEW YORK (CENTRAL ZONE) STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM 1983.

0' 50' 100'
APPROXIMATE SCALE

AECOM

LOCKHEED MARTIN CORPORATION

PROPOSED REMEDIAL ACTION
SHEET 1 OF 3

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

FILE NAME:	DRN	PROJECT NO.	DATE	FIGURE NO.
D7DECFIG2.dwg	---	60194430	05 / 2013	2A

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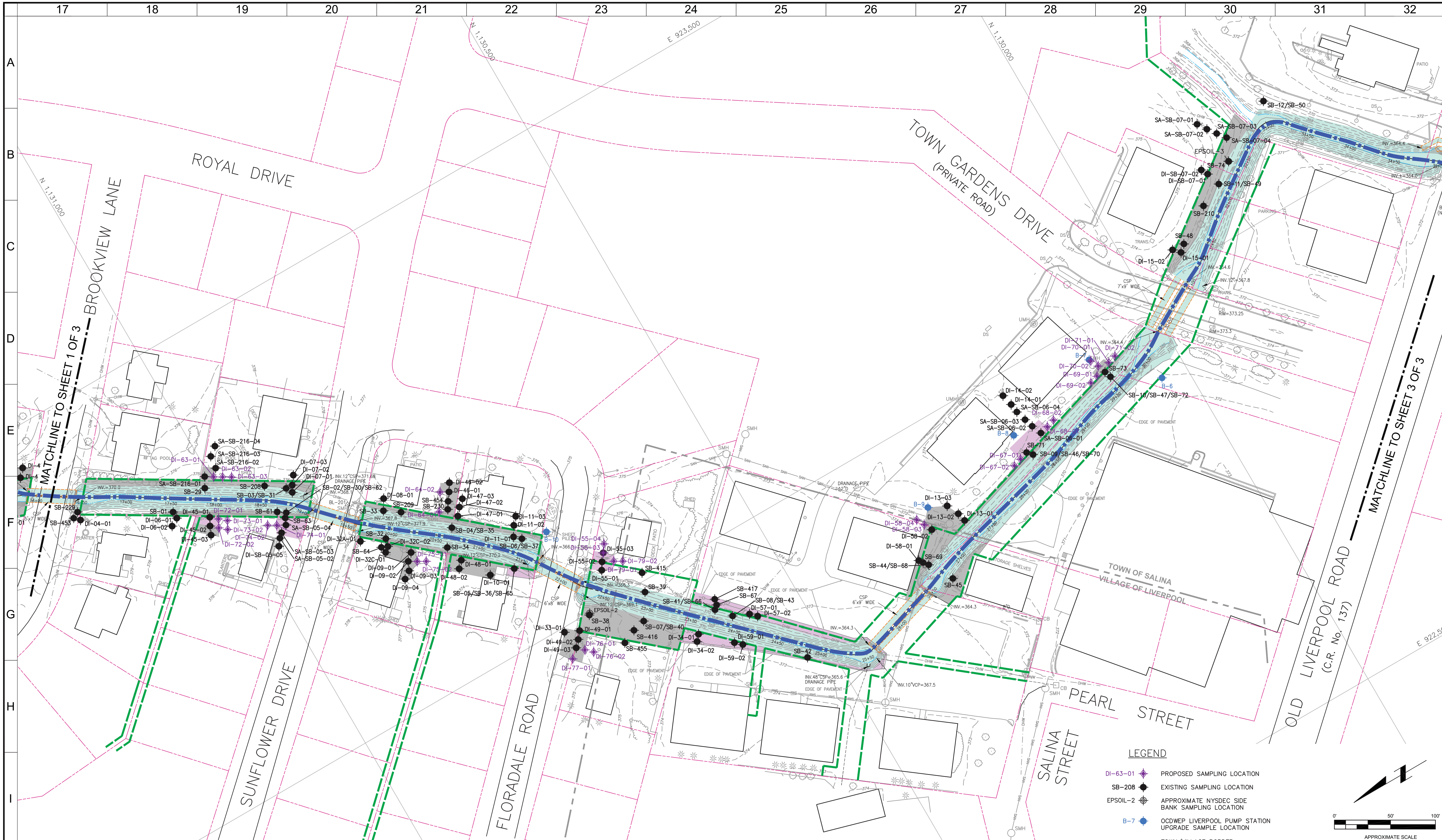


NOTE

1. SEE FIGURE 2C FOR IDENTIFICATION OF ADDITIONAL MAP SYMBOLS.
2. THE PROPOSED SAMPLE DEPTH INTERVAL, ANALYSIS APPROACH, AND COLLECTION METHOD FOR SOIL SAMPLES TO BE COLLECTED FROM THE PROPOSED SAMPLE LOCATIONS SHOWN ON THIS FIGURE ARE IDENTIFIED IN TABLE 4B OF THE REMEDIAL ACTION WORK PLAN.

REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.
2. THE VALUES SHOWN ARE BASED ON NEW YORK (CENTRAL ZONE) STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM 1983.

AECOM

LOCKHEED MARTIN CORPORATION

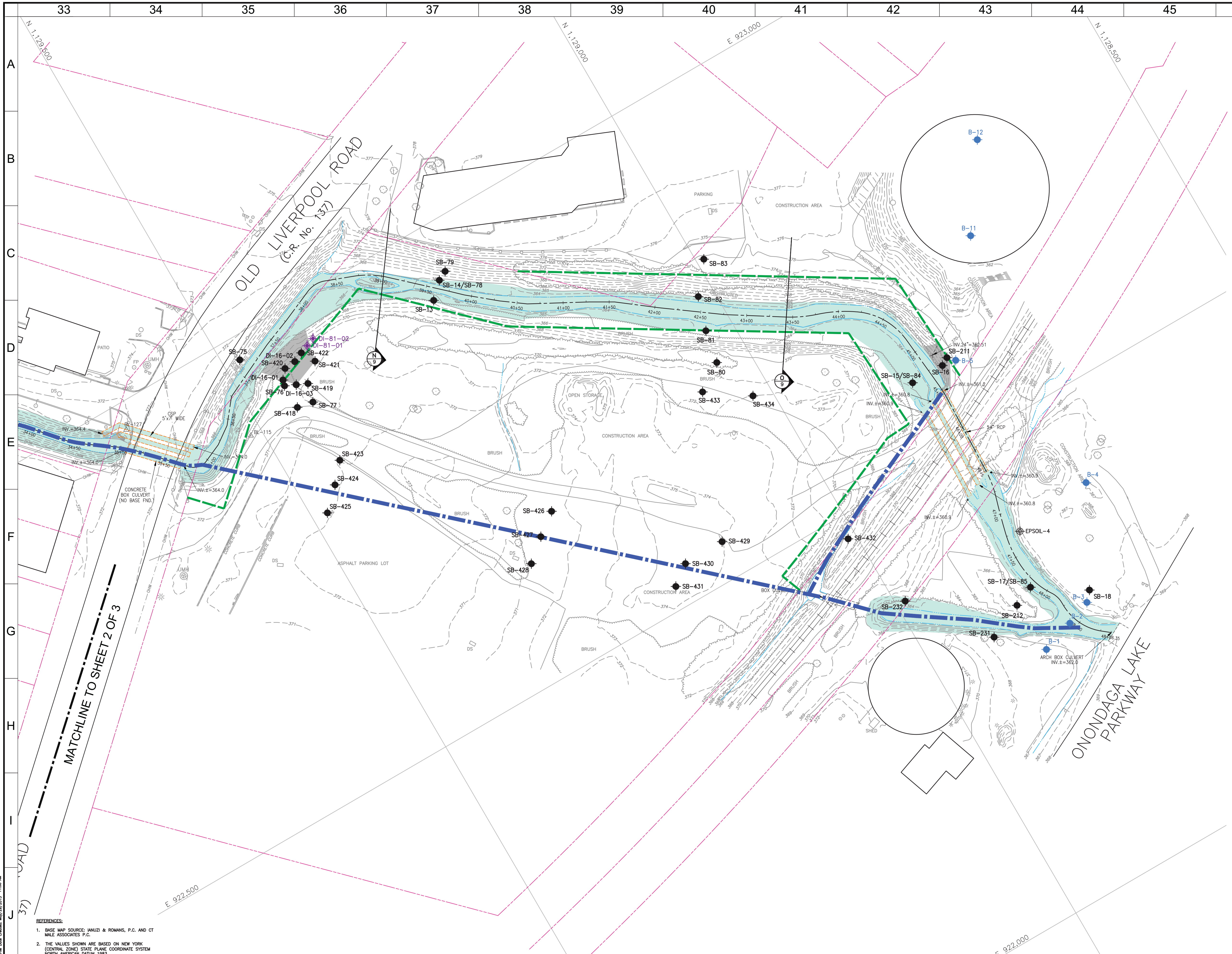
PROPOSED REMEDIAL ACTION
SHEET 2 OF 3

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

FILE NAME:	DRN	PROJECT NO.	DATE	FIGURE NO.
D7DECFIG2.dwg	---	60194430	05 / 2013	2B

Plotted By: bookasr
Layout-Sheet Name: FIGURE 2B
Plot File Date Created: May/29/2013 11:37 AM

Filename: N:\MARKETING\PROPOSALS\LOCKHEED MARTIN – BLOODY BROOK\CAD\D7DECFIG2.DWG



LEGEND

(green dashed line)	BLOODY BROOK DRAINAGE DISTRICT EASEMENT
(pink dashed line)	PROPERTY BORDER
365	TOPOGRAPHIC CONTOUR LINE
(dash-dot line)	WEST BRANCH OF BLOODY BROOK CENTERLINE
(blue line)	STREAM/WATER EDGE
(dashed line)	UNDERGROUND DRAIN LINE
OHW	OVERHEAD WIRES
RW	RETAINING WALL
(line)	GUARD RAIL
UMH	UTILITY MANHOLE
DMH	DRAINAGE MANHOLE
SMH	SANITARY MANHOLE
(symbol)	RAILROAD TRACKS
CB	CATCH BASIN
DS DS	DRAINAGE STRUTURES
FP	FLAG POLE
(orange dashed box)	CULVERT
E 924,000	NYS PLANE COORDINATE SYSTEM EASTING
N 1,131,000	NYS PLANE COORDINATE SYSTEM NORTHING
BL-115	AERIAL SURVEY GROUND CONTROL POINT
7+50 +	CHANNEL CENTERLINE SURVEY STATION
367.4 ×	TOPOGRAPHIC SPOT ELEVATION
(symbol)	CONIFEROUS TREE
(symbol)	DECIDUOUS TREE
(symbol)	LIGHT POLE
(symbol)	UTILITY POLE / GUY WIRE
DI-81-01	PROPOSED SAMPLING LOCATION
SB-432	EXISTING SAMPLING LOCATION
EPSOIL-4	APPROXIMATE NYSDEC SIDE BANK SAMPLING LOCATION
B-4	OCDWEP LIVERPOOL PUMP STATION UPGRADE SAMPLE LOCATION
(blue dash-dot line)	LOCATION HISTORIC BROOK ALIGNMENT
(grey area)	APPROXIMATE LIMITS OF PROPOSED REMEDIAL ACTION (2FT MAX. DEPTH BGS)
(light green area)	APPROXIMATE LIMITS OF PROPOSED REMEDIAL ACTION WITHIN EXISTING BROOK CHANNEL
N / 9	CROSS SECTION (PROFILE SHOWN ON FIGURE 9 OF THE REMEDIAL ACTION WORK PLAN)

NOTE

1. THE PROPOSED SAMPLE DEPTH INTERVAL, ANALYSIS APPROACH, AND COLLECTION METHOD FOR SOIL SAMPLES TO BE COLLECTED FROM THE PROPOSED SAMPLE LOCATIONS SHOWN ON THIS FIGURE ARE IDENTIFIED IN TABLE 4C OF THE REMEDIAL ACTION WORK PLAN.

0' 50' 100'
APPROXIMATE SCALE

AECOM

LOCKHEED MARTIN CORPORATION

PROPOSED REMEDIAL ACTION
SHEET 3 OF 3

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

FILE NAME:	DRN	PROJECT NO.	DATE	FIGURE NO.
D7DECFIG2.dwg	---	60194430	05/ 2013	2C

REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.
2. THE VALUES SHOWN ARE BASED ON NEW YORK (CENTRAL ZONE) STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM 1983.

Plotted By: bookasr
Layout-Sheet Name: FIGURE 2C
Plot File Date Created: May/29/2013 11:38 AM
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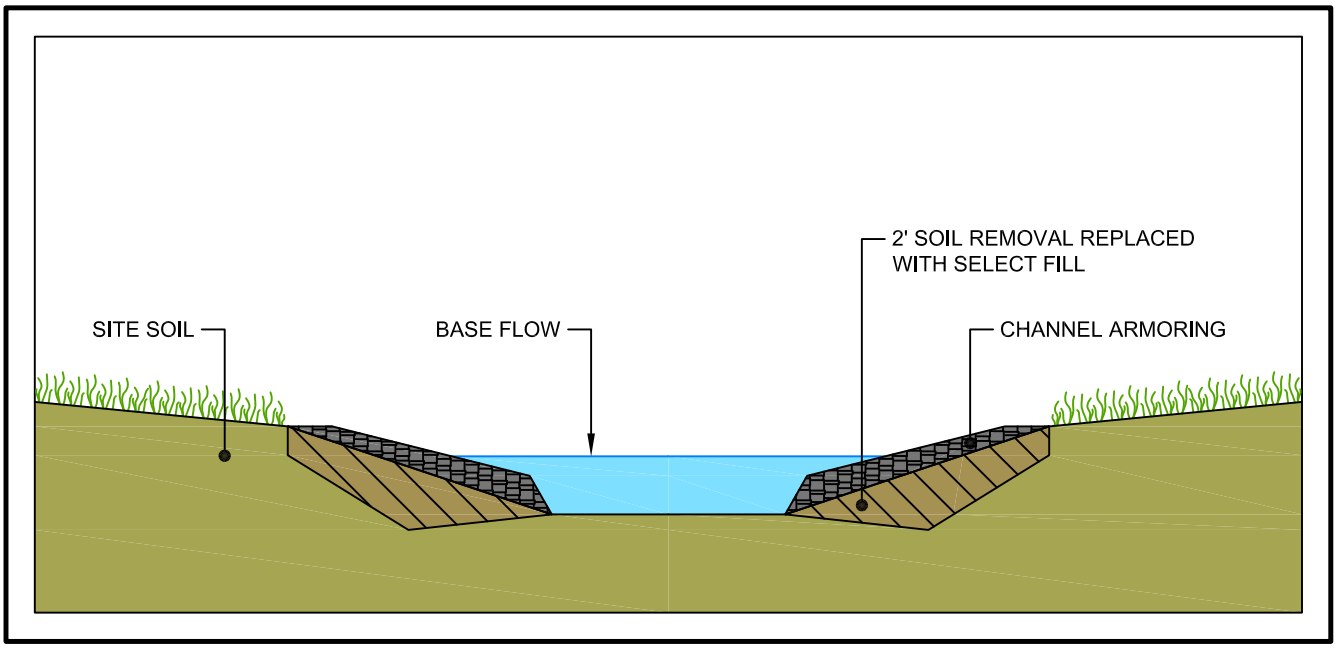
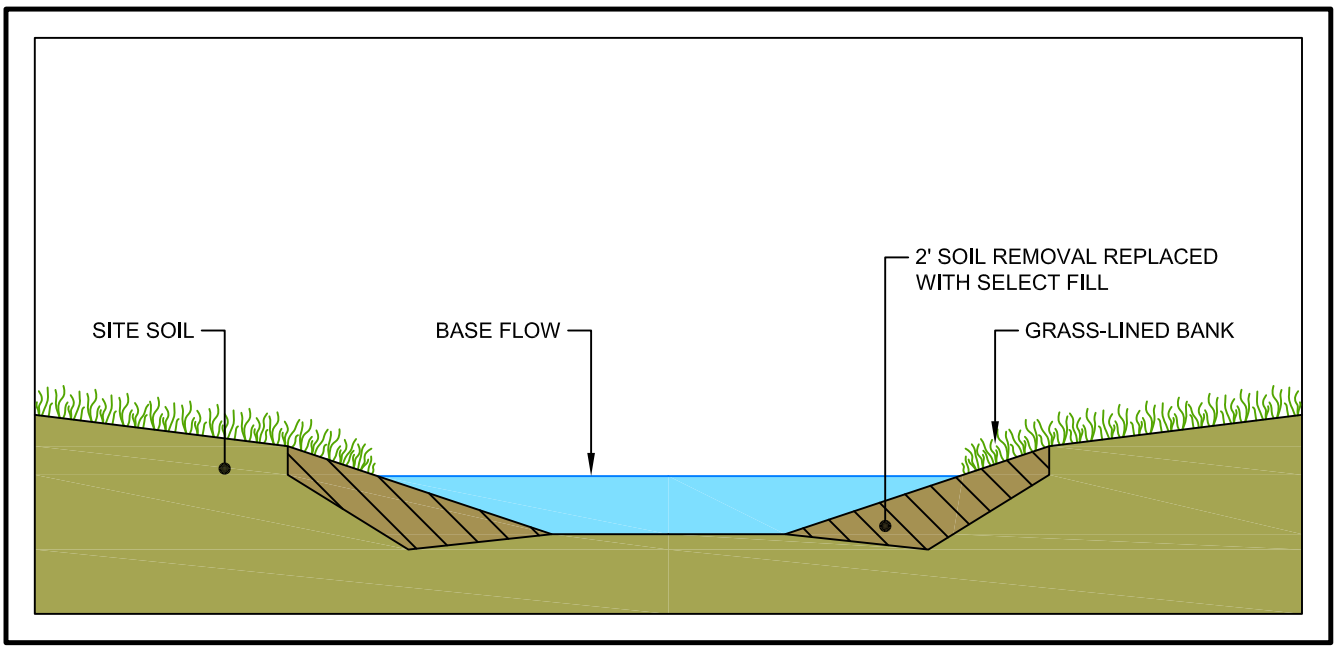


ARMORED BANK RESTORATION



GRASS-LINED BANK RESTORATION

AECOM

LOCKHEED MARTIN CORPORATION

TYPICAL BLOODY BROOK RESTORATIONS

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

FILE NAME:	DRN	PROJECT NO.	DATE	FIGURE NO.
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Plotted By: bookasr
Layout-Sheet Name: FIGURE 2D
Plot File Date Created: Jun/05/2013 11:19 AM

Filename: N:\MARKETING\PROPOSALS\LOCKHEED MARTIN – BLOODY BROOK\CAD\A5DECFIG2D.DWG

APPENDIX A

Responsiveness Summary

Responsiveness Summary

Bloody Brook Site
Voluntary Cleanup Program
Town of Salina, Onondaga County, New York
Site No. V00501

The Proposed Decision Document (PDD) for the Bloody Brook site was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on September 25, 2013. The PDD outlined the remedial measures proposed for the contaminated soil and sediment at the Bloody Brook site.

The release of the PDD was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on October 8, 2013, which included a presentation of the remedial investigation and remedial action work plan for the Bloody Brook site as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period ended on October 25, 2013.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

The following additional comments were received during the site Availability Session and Public Meeting on October 8, 2013.

COMMENT 1: A resident raised a concern with respect to the staging of equipment along the road during construction and the difficulty this causes in viewing oncoming traffic when entering the roadway.

RESPONSE 1: Traffic patterns and traffic safety will be taken into consideration in designing and implementing the remedy.

COMMENT 2: A resident raised a concern regarding dust generation and air exposure during construction.

RESPONSE 2: A Community Air Monitoring Plan (CAMP) will be developed during the remedial design, in consultation with NYSDOH, to establish project air quality criteria. The CAMP will be implemented during the remedial construction to monitor emissions and to help ensure compliance. The remedial design and construction will provide for measures to control emissions (*e.g.*, fugitive dust). These measures may include the use of water sprays during excavation, covering any

stockpiles of material (including excavated material and clean material brought on site for restoration), and covering trucks used for transporting material.

COMMENT 3: A resident raised a concern over mosquitoes and wondered whether the remediation might mitigate this.

RESPONSE 3: Although the determination of impacts of remediation on local mosquito populations is outside of the scope of the remedial program, it seems likely that the disturbance of the wetland areas during excavation and reconstruction may have short term, but probably not long term, impacts on mosquito populations.

COMMENT 4: A question came up regarding the meaning of the different colored flags in the wooded and wetland areas.

REPSONSE 4: Flags were placed by LMC to delineate planned excavation areas. The blue flags delineate wetland boundaries, the pink flags delineate the 2-foot excavation limits in the area, and the orange flags delineate the 6-foot excavation limits in the area.

COMMENT 5: A resident indicated that there are a high number of cancer cases in the neighborhood, and asked if a health study was to be conducted in the area.

RESPONSE 5: Based on data compiled from the New York State Environmental Facilities and Cancer Mapping project [http://www.health.ny.gov/statistics/cancer/environmental_facilities/mapping], the neighborhood surrounding the Bloody Brook site falls within a larger geographic area with lower levels of stomach and liver cancer, along with higher levels of prostate cancer. Please note that individual risk factors (i.e., lifestyle, family medical history) are not taken into account in these maps. Despite these findings, exposure to cadmium is not associated with any of the aforementioned cancer types. In addition, potential contact with site-related contamination along the creek banks and in nearby soil is minimized because the areas are either well vegetated with grass and brush, or covered by barriers to reduce erosion (*e.g.*, gabions, flagstone). People may come into contact with site-related contamination if they disturb sediment in the brook or if they dig below the surface in surrounding areas. Based on this information, along with a review of the environmental data collected as part of the site's investigation, there are no plans to conduct a health study in the immediate area of the site. For more information, please contact the New York State Department of Health (NYSDOH) at (518) 402-7950 or beoe@health.state.ny.us.

COMMENT 6: A resident stated that they had examined documents in the NYSDEC records regarding vegetable gardens, and also stated that there had been a recommendation that vegetables from the cadmium impacted areas not be eaten, but the recommendations were never sent to the public.

RESPONSE 6: The NYSDEC and NYSDOH have reviewed their files and found no record of a previous recommendation. However, until contaminated soils are removed, growing and eating vegetables in areas where cadmium contamination in soil was detected above residential soil cleanup objectives may expose you to higher levels of cadmium. Some studies suggest that cadmium can be

taken up from soil into garden vegetables. The amount of cadmium taken into the vegetables is difficult to know because it depends on many factors such as the specific kind of vegetable, characteristics of the soil, the level of cadmium in the soil and others. Also, soil can stick to vegetables and then be taken into the body when vegetables are eaten. To help reduce any exposures you might have from vegetable gardening, you can take some simple precautions. For example, you may decide not to plant a vegetable garden until the site and any impacted residential yards are cleaned up. If you choose to garden, pick a location that is well drained and is not prone to flooding from the brook. You can wash the vegetables and peel those such as cucumbers, potatoes, and carrots to help remove soil adhering to the surface. You also can wear gloves when digging in your garden, and wash your face and hands after working in the garden. You might also want to consider growing vegetable plants in a raised bed or container with composted manure or clean soil. If you have specific questions about health issues related to gardening, or if you own a property where soil samples were collected and have questions about those results, please contact the NYSDOH at (518) 402-7860 or beei@health.state.ny.us. For more information, please visit http://www.health.ny.gov/publications/1301/.

The following comments were received from Donald J. Hughes, P.E., Ph.D. of Hughes Environmental Consulting Services in a letter and memorandum submitted *via* an October 25, 2013 e-mail to the Department.

COMMENT 7: The Proposed Remedy should require that Lockheed Martin Corporation (LMC) investigate homes immediately south of the NYS Thruway for possible soil vapor intrusion.

RESPONSE 7: Groundwater quality data has been collected at the perimeter of the Electronics Park facility, as part of the facility's RCRA program, since 1992, and on a semi-annual basis since 1997. Based on the sampling data, there have been no detections of volatile organic compounds in groundwater monitoring wells located at the facility's perimeter. This indicates that contaminated groundwater is not migrating off of the facility in any direction. Therefore, the requested soil vapor intrusion investigation is not necessary since a source of volatile contaminants to soil vapor is not present.

COMMENT 8: The proposed remedial action will remove an estimated 1700 cubic yards of sediment from the West Branch. It is essential that post-remediation testing of PCBs and PAHs be done to ensure that remaining levels of these compounds are below sediment toxicity guidelines (total PCBs <100 ppb; total PAHs <4,000 ppb).

Testing should include other heavy metals/metalloids (mercury, copper, zinc, arsenic) which have been found at elevated levels during past investigations.

RESPONSE 8: During the early phases of the remedial investigation for the site, some of the soil and sediment samples collected from both the west and middle branches of Bloody Brook were analyzed for a comprehensive suite of compounds and analytes, including PCBs, PAHs and metals. Based on an evaluation of the data, it was determined that cadmium was the primary contaminant of concern for the site. While some other contaminants (*e.g.*, PCBs, PAHs and metals other than cadmium) were detected in some samples, their frequency of detection and/or corresponding

concentrations did not warrant their further investigation. Therefore, post-remediation analysis for PCBs, PAHs and metals other than cadmium will not be required.

COMMENT 9: No remedial action is proposed for the Middle Branch of Bloody Brook, leaving PCB and PAH contamination in place which is likely to be toxic to aquatic life. It also poses a hazard to anyone who comes in contact with creek sediments. Finally, these sediments will be a continuing source of contamination to Onondaga Lake. Given the major efforts being made to clean up or cap contaminated sediments in the lake, it seems foolish to allow this to happen.

Therefore, it is necessary that NYSDEC, together with LMC, conduct a comprehensive investigation of contamination levels in the Middle Branch of Bloody Brook. Sediment samples need to be collected along the length of the creek and tested for PCBs, PAHs, cadmium, and other heavy metals/metalloids (mercury, copper, zinc, arsenic) which have been found at elevated levels during past investigations.

RESPONSE 9: Please see Response to Comment 8 above.

Sediment data collected as part of the Onondaga Lake remedial investigation indicate that there is no ongoing significant source of contamination, including cadmium, to Onondaga Lake from Bloody Brook nor would this condition be expected to change. Engineering controls will be implemented during remediation of the site in order to control resuspension and transport of contaminants to the lake.

COMMENT 10: Thousands of floodplain soil samples have been collected over the past 10+ years. Assuming that these soil samples are still in storage, then a representative subset could be pulled out and analyzed for PCBs, PAHs, and several heavy metals (Cu, Hg, Zn, and others). This would provide an indication of levels of contamination, and how closely the cadmium contamination is related to these other contaminants.

It is essential that the remediation be sufficient to bring the PCBs, PAHs, and other heavy metals down to levels that are protective of human health and the environment. Thus, additional sampling in advance of the actual construction activities will be necessary to define the levels and extent of the non-Cd contaminants. Post-remediation confirmation sampling will need to include PCBs, PAHs, and other heavy metals to demonstrate that soil objectives have been met.

For disposal purposes, it will be necessary to test the excavated soils for total PCBs and for TCLP metals. However, this should not take the place of actual in-the-field spotchecking of residual PCBs and metals.

RESPONSE 10: Please see Response to Comment 8 above.

As stated in the comment, sampling will be required for disposal purposes, and sampling will include PCBs and TCLP metals, as required by the disposal facility.

The following comments were received from Alma Lowry, Esq., on behalf of the Onondaga Nation, in an October 25, 2013 letter to the Department.

COMMENT 11: The PDD is explicitly geared toward the removal or containment of cadmium-contaminated soils. In general, the proposed remediation appears to take a relatively thorough and careful approach to this problem. We are particularly pleased to see the complete removal of contaminated and potentially contaminated sediments in the main and West Branches of Bloody Brook, the removal of contaminated soils from the banks of the Brook, and the relatively large-scale removal of contaminated surface and sub-soils in areas adjacent to or within the current or former stream bed. In addition, we are pleased at the on-going commitment to manage any contaminated subsurface soils that homeowners in the area may encounter.

RESPONSE 11: Comment noted.

COMMENT 12: We are concerned, however, that less protective standards are being applied to areas currently occupied by an apartment complex. First, the soil standards applied in this area are slightly less protective than those applied to the wooded/wetland areas to ensure ecological protection. While the type, density and intensity of wildlife use is certainly likely to be higher within the wooded/wetland areas than in the apartment complex, these areas are relatively close. Bloody Brook connects these areas and there is little reason to presume that wildlife would not or could not be exposed to surface contamination within the apartment complex site. At minimum, the ecological protection standard of 4.0 ppm should be applied to this area.

Second, the allowable contaminant levels are significantly higher than those allowed in unrestricted residential areas. This difference appears to be based on the assumption that there will be fewer opportunities for direct human contact with contaminated soils in apartment complexes – for example, the lack of direct contact through vegetable gardening. If so, these assumptions should be incorporated into land use covenants or other enforceable documents that guarantee that potentially unsafe activities are either not allowed or will trigger additional testing and, if necessary, remediation.

RESPONSE 12: The remedy at and in the vicinity of the apartment complex area includes the removal of all sediment from the West Branch of Bloody Brook; the excavation of the top 2 feet of side bank soil from the West Branch of Bloody Brook and reconstruction of the side banks with a minimum of two feet of clean cover material; and excavation of soils in the top two feet that exhibit cadmium concentrations greater than 4.3 ppm and soils from two to four feet below grade that exhibit cadmium concentrations greater than 10 ppm. The area of greatest ecological importance in this area would be considered the stream and stream bank, which are being remediated. The soil in the apartment complex area is being cleaned up to the “restricted residential” soil cleanup objective of 4.3 ppm cadmium in the top two feet consistent with the primary use of these soils compared to the ecologically significant wooded and wetland areas where the “protection of ecological resources” soil cleanup objective of 4.0 ppm in the top 2 feet.

The remedy at and in the vicinity of the apartment complex area differs from the residential areas only in the cadmium concentrations left in the top 2 feet of soil (4.3 ppm [restricted residential] vs. 2.5 ppm [residential]). The difference in these values results from differences in typical activities of

private homeowners compared to individuals who rent apartments (*e.g.*, gardening, fence installation, pool installation, planting of shrubs and trees).

COMMENT 13: We also recognize that community members have raised valid concerns regarding other potential contaminants in the area that may not have been sufficiently characterized. In particular, there is a documented history of petroleum spills and PCB- and BTEX-contaminated soils within the Electronics Parkway site. These contaminants have the potential to affect groundwater and are of the type that may create a risk of soil vapor intrusion. We support community calls for DEC to conduct additional sampling to more fully characterize this risk.

RESPONSE 13: Please see responses to comments 7, 8 and 9 above.

The following comments were received from Onondaga County through an October 23, 2013 letter from David Coburn, Environmental Director, Office of the Environment.

COMMENT 14: The County respectfully requests that the DEC assure that implementation of the final remedy by Lockheed Martin Corporation (LMC) will be designed and implemented in a manner that complements, and does not diminish the site for drainage district purposes, and does not unreasonably interfere with operation, maintenance, construction, reconstruction and use of drainage and flood control facilities at the site in the future.

RESPONSE 14: The Department believes that the remedy will not diminish the site for drainage district purposes, nor unreasonably interfere with operation, maintenance, construction, reconstruction or use of drainage and flood control facilities at the site in the future. In order to help ensure this, the County will be provided the opportunity to provide input into the remedial design as it relates to drainage district uses/needs.

COMMENT 15: Further, the proposed remedy should not result in any added financial burden to the County and the drainage district rate payers, particularly such that operation, maintenance and future reconstruction or improvements associated with the drainage district become more costly due to remedies (*e.g.*, residual contamination not removed from the site) by LMC. Specifically, it is requested that the DEC place contingencies into the final remedy which require that LMC retain responsibility for removal and disposal of all contaminated materials of concern associated with future maintenance, repair, restoration or reconstruction of the channel or replacement of culverts and/or any other drainage district flood protection facilities.

RESPONSE 15: One of the elements of the selected remedy includes the development of a Site Management Plan (SMP). The SMP includes, but may not be limited to, an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination; provisions for the management and inspection of the identified engineering controls, including within drainage district right-of-way areas. While usage of these areas is generally controlled by the drainage district right-of-way status, potential exposures related to required district maintenance or repairs to brook banks, culverts, *etc*. will be addressed by Lockheed Martin. The SMP will provide for an annual reminder from Lockheed Martin to property owners with post remedy remaining soil contamination of this condition and of Lockheed Martin's commitment to handle [excavate, manage

and/or dispose] remaining contaminated soils, as necessary and in accordance with the intended use of the property. In addition, the SMP will call for Lockheed Martin to request that the Town of Salina and Onondaga County timely inform Lockheed Martin of any Town or County plans to conduct intrusive maintenance or construction work within the site boundaries (*e.g.*, soil disturbance work).

The following comments were received from the Atlantic States Legal Foundation through an October 26, 2013 letter from Wendy L. Paterson, M.S., Staff Scientist.

COMMENT 16: Provide reasoning for why these contaminants: copper (161ppm), mercury (0.36ppm), barium (1800-2400ppm), zinc (25-577ppm), PCBs (2.7-4.4ppb), PAHs (540-18,000ppb), and DDE (5-13ppb), which have been detected in the affected area's sediment, and in some cases at levels considered "likely to pose a risk to aquatic life" in the NYSDEC proposed 2013 Screening and Assessment of Contaminated Sediment, are not of concern. In an initial phase of the cleanup test the soil for the listed contaminants and adjust the plan based on the levels found.

RESPONSE 16: Please see Response to Comment 8 above.

In addition, some of the concentrations mentioned above are from samples which are not located within the site boundaries or are from samples where the sediment has already been remediated. For example, copper at 161 ppm was obtained from the pond on the Electronics Park facility, not from the Bloody Brook VCP site. The Electronics Park facility was remediated under the RCRA program. Also, as part of the remedy implemented under the RCRA program, PCB-impacted sediments within a 200-foot long culvert beneath the Thruway and from a 750-foot section in the West Branch of Bloody Brook south of the Thruway were removed. Current concentrations of PCBs in sediment at the site range from non-detect to 0.95 ppm.

COMMENT 17: Conduct background research to collect historical data and comparative data of species composition of the Bloody Brook habitat prior to the contamination and creation of brownfields and to similar habitats that have not been disturbed or are post remediation phases. Use this background information to create habitat remediation and creation plans. Also use this background information to create a species survey plan to record the species present currently and post remediation effort. Present the habitat plan and species survey plan in the cleanup plan. Set goals to determine the level of improvement of the cleanup efforts. Specific suggested target questions that should be answered by the background research include: what was the area like before GE used it for housing, waste disposal, landfill, and manufacturing facilities and was the area ever hydrologically connected to Ley Creek forming a complex wetland drainage system to Onondaga Lake that provided nursery habitat for fish and especially the Onondaga Lake whitefish?

RESPONSE 17: Where site remediation disturbs stream bed and banks, wetlands, and other important habitat areas, mitigation and/or restoration measures will be incorporated into the remedial design as required by applicable standards, criteria and guidelines. In addition, the remedial design will also include a monitoring plan to assess the performance and effectiveness of the remedy which may include appropriate metrics applicable to wetlands, sediments, and biota.

The following comment was received from the Onondaga County Water Authority through an October 15, 2013 e-mail from Michael E. Hooker, Executive Director.

COMMENT 18: Please be advised that the Onondaga County Water Authority (OCWA) has water mains, hydrants and customer services within the site delineated on the project site map. Protection of OCWA facilities should be coordinated through OCWA's Engineering Manager, Patrick Sherlock. Mr. Sherlock can be reached by phone at 315-455-7061 ext. 3111. Patrick can also be reached via email at psherlock@ocwa.org.

RESPONSE 18: The information has been provided to Lockheed Martin. The Department and Lockheed Martin will work with OCWA to coordinate remedial activities.

The following comment was received through an October 9, 2013 e-mail from Ron Gryziec.

COMMENT 19: Mr. Gryziec stated concern over the final disposal location of the sediments and soils excavated as part of this remedy.

RESPONSE 19: The final disposal location(s) will be determined during the design phase of the project. The disposal of excavated material characterized as non-hazardous waste will be sent to an off-site permitted non-hazardous waste landfill, and the disposal of excavated material characterized as a hazardous waste will be sent to an off-site permitted hazardous waste disposal facility, subject to Department approval.

APPENDIX B

Administrative Record

Administrative Record

Bloody Brook Site
Voluntary Cleanup Program
Town of Salina, Onondaga County, New York
Site No. V00501

1. *Proposed Decision Document for the Bloody Brook site,* dated September 2013, prepared by the Department.

2. October 1996: *Technical Evaluation of Sampling and Analysis Programs* by BBL for Lockheed Martin Corp.

3. January 1997: *West Branch of Bloody Brook Sediment Removal Work Plan* by BBL for Lockheed Martin Corp.

4. *Statement of Basis,* for Lockheed Martin Corporation, Electronics Park Facility, dated January 1997, prepared by the Department

5. *Final Decision and Response to Comments for Selection of Remedies to Address Contamination at Electronics Park and in the West Branch of Bloody Brook,* dated February 1997, prepared by the Department.

6. November 1997: *West Branch of Bloody Brook Sediment Removal Certification Report* by BBL for Lockheed Martin Corp.

7. June 2002: *Shallow Side Bank Surface Soil Sampling and Analysis Work Plan*, West Branch of Bloody Brook, Onondaga County, New York by IT Group for Lockheed Martin Corp.

8. September 2002 (Revised November 2002): *Phase III Side Bank Soil Investigation Work Plan Bloody Brook, Onondaga County, New York* by Shaw Environmental, Inc. for Lockheed Martin Corp.

9. March 2003 (Revised July 2003): *Phase IV Side Bank Soil Investigation Work Plan, Bloody Brook, Onondaga County, New York* by Shaw Environmental, Inc. for Lockheed Martin Corp.

10. April 2004: *Phase IV-A Side Bank Soil Investigation- Proposed Sampling Locations Bloody Brook, Onondaga County, NY. Voluntary Cleanup Agreement Index #D7-0001-01-09 (VCP Site No. V00501-7)* by Shaw Environmental, Inc. for Lockheed Martin Corp., for NYSDEC.

11. January 2008: *Supplemental Soil Sampling Results* by Arcadis of New York for Lockheed Martin Corp.

12. April 2008: *Final Interim Remedial Measures Work Plan, Culvert Sediment Removal* by Shaw Environmental, Inc. for Lockheed Martin Corp.

13. March 2009: *Interim Remedial Measures Certification Report,* Culvert Sediment Removal by Shaw Environmental, Inc. for Lockheed Martin Corp.

14. February 2011: *Design Soil Investigation Work Plan* by Shaw Environmental, Inc., for Lockheed Martin Corp.

15. November 2011: *Design Soil Investigation Summary Report* by Shaw Environmental, Inc., for Lockheed Martin Corp.

16. January 2012: *Analytical Data Summary Bloody Brook Voluntary Cleanup Program Onondaga County, NY* by Shaw Environmental, Inc., for Lockheed Martin Corp.

17. December 2012: *Additional Design Soil Investigation Work Plan* by AECOM USA, Inc., for Lockheed Martin Corp.

18. February 2013: *Remedial Action Work Plan* by AECOM USA, Inc., for Lockheed Martin Corp.

19. Comment letter and memorandum, submitted *via* an October 25, 2013 e-mail, prepared by Donald J. Hughes, P.E., Ph.D. of Hughes Environmental Consulting Services.

20. Comment letter from Onondaga County, October 23, 2013, prepared by David Coburn, Environmental Director of Office of the Environment.

21. Comment letter from the Onondaga Nation, October 25, 2013, prepared by Alma Lowry, Esq., Of Counsel, Law Office of Joseph Heath, General Counsel, Onondaga Nation.

22. Comment letter from Atlantic States Legal Foundation, October 26, 2013, prepared by Wendy L. Paterson, M.S., Staff Scientist of ASLF.

23. Comment e-mail from the Onondaga County Water Authority, October 15, 2013, prepared by Michael, E. Hooker, Executive Director.